

The Performance Economy

Second Edition

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priority, as are documented reprocessing procedures, which can be reliably reproduced to show consistent results and which conform to defined specifications. This sector forms the nucleus for Vanguard's other activities and gives it a competitive edge.

A fundamental component of quality assurance and risk management is the ability to uniquely identify each individual medical device. To ensure that a device can be retraced back through all the applications and reprocesses it has encountered during its service life, Vanguard has established a reliable instrument coding system (www.vanguard.de).

- **CHEP rental packaging.** With more than 300,000 customers worldwide, CHEP is the global leader in pallet and container pooling services, serving raw materials and ingredients suppliers, manufacturers, growers, transporters, distributors and retailers to move their products efficiently and cost effectively through the supply chain. Goods transported include consumer goods, fruit and vegetables, meat, home improvement products, beverages, raw materials, petrochemicals and automotive parts.

In its simplest form, pallet and container pooling is the shared use of standard pallets and containers by multiple customers or users. Wooden and plastic pallets are available, and customers pay a daily rent plus a fee for pallets lost.

CHEP issues ready-for-use pallets and containers from its service centres to manufacturers and growers, who load and ship their products through the supply chain, at the end of which the receiving retailer or distributor offloads the goods and returns the pallets or containers to the nearest CHEP service centre, which inspects the pallets or containers and ensures they meet the quality standards for next customer use. High quality pallets and containers are constantly maintained, controlled, tracked and reused to benefit the entire supply chain. CHEP leverages a unique combination of customer-driven solutions, sophisticated control systems, a well-managed global infrastructure and advanced transport/logistics capabilities to synchronise the flow of pallets and containers to meet customers' specific demands. CHEP manages the daily movements of over 265 million pallets and containers from a global network of over 440 service centres in 42 countries.

- **FreePackNet – system design for kitchen appliances and their packaging.** A change in packaging can lead to a smart redesign of goods and their marketing. Kitchen appliances today require minimal packaging as the goods themselves are designed to with-

stand the physical forces – clamping, stacking, and shocks – during storage and transport. However, if transport packaging were made robust enough to absorb physical impact, the goods could be designed for optimal utilisation by being lightweight and energy efficient. Refrigerators, for instance, can be built using vacuum-insulated wall panels (VIP) instead of a frame with foamed insulation material (Mitsubishi, in 2005, was the first manufacturer to produce ‘energy-miser’ refrigerators using VIPs).

Furthermore, a standardised reusable transport packaging facilitates goods handling during both delivery and take-back in the Lake and the Loop Economy. It also enables a substantial loss prevention during transport. During the 2008 test phase, transport losses were reduced by a factor ten, from 5 per cent to 0.5 per cent.

The advantages of solid transport packaging combined with a lightweight product design are savings in material costs in production, and the option to remarket goods and components after take-back. However, existing production lines must be adapted, and the control of the value chain between manufacturers, distributors, sellers and the fleet managers of the reusable packaging must be renegotiated.

- **Lufthansa Technik – general manager for component support services.** In October 2004, Lufthansa Technik signed a 15-year contract with Spirit Airlines for a product service called ‘Total Component Support’, providing product-services for component life-cycle events for Spirit’s new fleet of Airbus A321s and A318s (Spirit has placed a firm purchase for 35 Airbuses and an option for another 60).

Components covered include avionics and APUs under a maintenance-cost per-hour or per-cycle programme. Wheels and brakes are covered on a per-landing basis, with work to be performed by Heico, of which Lufthansa Technik is part owner. Major landing gear and airframe components have not yet been included in the contract. Kits for A1 through A8 checks will be kept at all Spirit stations, and Lufthansa Technik will maintain a pool of components at Fort Lauderdale, Florida, with back-up at its facilities in Germany.

Spirit uses its own airplanes to transport components, kits and materials from base to base while Lufthansa Logistik manages the flow of products between Lufthansa Technik and Spirit. Lufthansa Technik has retained ownership of most contracted components, which helps Spirit keep its asset investment low.